

WHAT IS CLAIMED IS:

1. A system for activating a passenger-protecting device mounted on an automotive vehicle according to behavior of the vehicle, the activating system comprising:

an angular velocity sensor for detecting rolling angular velocity of the vehicle;

means for calculating a difference between two angular velocities detected in a predetermined time interval;

means for determining that the vehicle is rolling over when the difference between two angular velocities exceeds a predetermined value; and

means for activating the passenger-protecting device when the determining means determines that the vehicle is rolling over.

2. A system for activating a passenger-protecting device mounted on an automotive vehicle according to behavior of the vehicle, the activating system comprising:

an angular velocity sensor for detecting rolling angular velocity of the vehicle;

first calculating means for calculating a rolling angle of the vehicle based on the angular velocity detected by the angular velocity sensor;

first determining means for determining that the vehicle is rolling over when the detected rolling angle

velocity and the calculated rolling angle satisfy a predetermined threshold;

second calculating means for calculating a difference between two angular velocities detected in a predetermined time interval;

second determining means for determining that the vehicle is rolling over when the difference between two angular velocities exceeds a predetermined value; and

means for activating the passenger-protecting device when either the first or the second determining means determines that the vehicle is rolling over.

3. A system for activating a passenger-protecting device mounted on an automotive vehicle according to behavior of the vehicle, the activating system comprising:

an angular velocity sensor for detecting rolling angular velocity of the vehicle;

first calculating means for calculating a rolling angle of the vehicle based on the angular velocity detected by the angular velocity sensor;

means for determining that the vehicle is rolling over when the detected angular velocity and the calculated rolling angle satisfy a predetermined threshold;

means for activating the passenger-protecting device when the determining means determines that the vehicle is rolling over;

second calculating means for calculating a difference between two angular velocities detected by the angular velocity sensor in a predetermined time interval; and

means for changing the predetermined threshold according to the difference between two angular velocities.

4. The system for activating a passenger-protecting device as in claim 3, wherein:

the predetermined threshold defines a rollover region and a non-rollover region on a two-dimensional coordinate having an abscissa showing the rolling angle thereon and an ordinate showing the angular velocity thereon, the non-rollover region being located in an area including the origin of the two-dimensional coordinate; and

the determining means determines that the vehicle is rolling over when a locus of the detected angular velocity and the calculated rolling angle on the two-dimensional coordinate crosses the threshold and enters into the rollover region from the non-rollover region.

5. The system for activating a passenger-protecting device as in claim 4, wherein:

the changing means moves the predetermined threshold toward the origin of the two-dimensional coordinate as the difference between two angular velocities becomes larger.

6. The system for activating a passenger-protecting device as in claim 1, wherein:

the passenger-protecting device includes at least one device selected from a group consisting of a curtain airbag, a seatbelt with a pretensioner and a device for repeatedly winding a seatbelt by a motor.

7. The system for activating a passenger-protecting device as in claim 2, wherein:

the passenger-protecting device includes at least one device selected from a group consisting of a curtain airbag, a seatbelt with a pretensioner and a device for repeatedly winding a seatbelt by a motor.

8. The system for activating a passenger-protecting device as in claim 3, wherein:

the passenger-protecting device includes at least one device selected from a group consisting of a curtain airbag, a seatbelt with a pretensioner and a device for repeatedly winding a seatbelt by a motor.